# RINGKASAN

Gula kelapa kristal merupakan hasil olahan nira berbentuk serbuk. Nira mengandung nutrisi yang tinggi sehingga mudah mengalami kerusakan oleh mikroba. Pencegahan yang dilakukan untuk menghambat kerusakan nira yaitu dengan penambahan pengawet (laru) pada nira. Penelitian ini mengambangkan laru tangkis sebagai formula dasar dengan mengganti kapur menggunakan arang sekam yang dikombinasikan dengan beberapa jenis daun dalam bentuk cair. Penelitian ini bertujuan untuk: 1) mengetahui pengaruh formula laru alami bentuk cair berbahan arang sekam dan ekstrak daun terhadap sifat kimia nira dan gula kelapa kristal; 2) mengetahui pengaruh konsentrasi laru alami bentuk cair berbahan arang sekam dan ekstrak daun terhadap sifat kimia nira dan gula kelapa kristal; 3) menentukan kombinasi perlakuan terbaik antara formula dan konsentrasi laru alami bentuk cair berdasarkan sifat sensori gula kelapa kristal.

Penelitian ini menggunakan Rancangan Acak Kelompok faktorial. Faktor yang dicoba yaitu formula (A) yang terdiri dari formula dasar : daun slatri : daun jambu biji (80:10:10) (A1); formula dasar : daun sirih : daun jambu biji (80:10:10) (A2); formula dasar : daun slatri : daun sirih (90:5:5) (A3); formula dasar : daun slatri : daun jambu biji (90:5:5) (A4); formula dasar : daun sirih : daun jambu biji (90:5:5) (A5), dan konsentrasi (K) yang terdiri dari 0,5%; 1%; 1,5%. Variabel yang diamati meliputi: 1) variabel kimia (pH nira, total padatan terlarut nira, berat jenis nira, kadar air, kadar abu, total padatan tidak terlarut, kadar sukrosa, dan kadar gula reduksi); 2) variabel sensori (warna, aroma, tekstur, tingkat kemanisan, dan kesukaan).

Hasil penelitian menunjukkan variasi formula laru alami hanya berpengaruh pada kadar abu gula kelapa kristal namun tidak berpengaruh pada sifat kimia nira dan gula kelapa kristal yang lainnya. Variasi konsentrasi laru alami tidak berpengaruh terhadap sifat kimia nira dan gula kelapa kristal. Kombinasi perlakuan terbaik berdasarkan sifat sensori gula kelapa kristal adalah formula dasar: daun sirih: daun jambu biji dengan konsentrasi 1,5% (A5K3) yang memiliki warna cokelat (2,73); aroma khas (2,70); tekstur halus (2,93), rasa manis (3,03), dan disukai (2,87). Karakteristik kimia gula semut tersebut yaitu pH nira 6,25; berat jenis nira 1,015; total padatan terlarut nira 13$^{o}$Brix; kadar air 4,0%bb; kadar abu 1,56%bk; total padatan tidak terlarut 1,75%bk; sukrosa 63,34%bk; gula reduksi 11,93%bk.

## *SUMMARY*

*Granulated coconut sugar was made from coconut sap. Sap contains high nutrients, it is so easily damaged by microbes. It can be prevented by the addition of natural preservation (laru) in sap. The development of 'tangkis' as a bassic formula that is by replacing the lime with charcoal husk combined with some leaf types. This study aims to: 1) to know the effect of natural laru formula of charcoal husk and leaf extract on chemical characteristic of sap and granulated coconut sugar; 2) to know the effect of natural laru concentration of charcoal husk and leaf extract to chemical characteristic of sap and granulated coconut sugar; 3) to determine the best combination treatment between formula and natural laru concentration of charcoal husk and leaf extract based on granulated coconut sugar sensory characteristic.*

*This study used Factorial Randomized Block Design. The experimental factors are formula (A) include basic formula : soulatri leaf : guava leave (80:10:10) (A1); basic formula : betle leaf : guava leaf (80:10:10) (A2); basic formula :soulatri leaf : betle leaf (90:5:5) (A3); basic formula : soulatri leaf : guava leaf (90:5:5) (A4); basic formula : betle leaf : guava leaf (90:5:5) (A5), and concentration (K) include 0.5%; 1%; 1.5%. The variables observed included: 1) chemical variables (pH of sap, total dissolved solids of sap, density, moisture content, ash content, total dissolved solid, sucrose content, and reduction sugar content); 2) sensory variables (color, smell, texture, sweetness level, and likes).*

*The results showed that the variation of natural laru formula only had an effect on the ash content of granulated coconut sugar but it did not effect the chemical characteristic of sap and other granulated coconut sugar. Variations of natural laru concentration had no effect on chemical characteristic of sap and granulated coconut sugar. The best combination treatment based sensory characteristic of granulated coconut sugar is basic formula treatment: betel leaf: guava leaf with concentration of 1.5% (A5K3) is brown color (2.73); typical aroma (2.70); fine texture (2.93), sweet taste (3.03), and preferred (2.87). The chemical characteristics of the granulated coconut sugar are pH of sap 6.25; density of 1.015; total soluble solids of 13$^{o}$Brix; water content 4.0%wb; ash content 1.56%db; total dissolved solids 1.75%db;; sucrose of 63.34%db; sugar reduction of 11.93%db.*